

invention.

What is claimed is:

CLAIMS

1 1. A flow system device used for creating fluid flow, said system comprising:
2 at least one fluid filled loop;
3 a rotor stage for maintaining at least one rotor, said loop positioned on said rotor;
4 a driving motor for rotating said rotor stage; and
5 a motion controller for controlling the speed and directional motion of said motor.

1 2. The flow system device of claim 1 further comprising a measurement system to record
2 and calculate desired properties of the fluid within said at least one loop.

1 3. The flow system device of claim 1 wherein a vascular prosthesis is placed within the
2 tube.

1 4. The flow system device of claim 3, wherein said vascular prosthesis is a stent or graft.

1 5. The flow system device of claim 1 wherein the created fluid flow is bidirectional.

1 6. The flow system device of claim 1 wherein the loop includes a one way valve.

1 7. The flow system device of claim 1 wherein the system included six rotors with six
2 corresponding fluid filled loops.

1 8. The flow system device of claim 1 wherein the fluid is blood.

1 9. The flow system device of claim 1 wherein the stents are coated with gold or stainless
2 steel.

1 10. The flow system device of claim 1 wherein the fluid flow within the loop is
2 controllable such that thrombotic signal is created.

1 11. The flow system device of claim 1 wherein the fluid flow within the loop is
2 controllable such that the effects of background noise is minimized.

1 12. A method of creating fluid flow, said method comprises:
2 providing a fluid flow system including at least one loop, a rotor stage for maintaining at
3 least one rotor, the loop positioned on the rotor, a driving motor for rotating the rotor stage and, a
4 motion controller for controlling the speed and directional motion of the motor;
5 filling the at least one loop with fluid which is to be tested;
6 controlling the motor to obtain the desired motion of the fluid within the tube;
7 measuring the desired effects of the fluid flow.

1 13. The method of claim 12 wherein the fluid flow system further includes a measurement
2 system to record and calculate desired properties of the fluid flow within the loop.

1 14. The method of claim 12 wherein the fluid is blood.

1 15. The method of claim 12 wherein a vascular prosthesis is maintained within the tube.

1 16. The method of claim 15 wherein the vascular prosthesis is a stent or graft.

1 17. The method of claim 15 wherein the thrombotic effect of the vascular prosthesis on the
2 blood is measured.

1 18. The method of claim 12 wherein the fluid flow is controlled such that the fluid flow
2 begins, stops and begins to mimic the flow of blood due to the pumping of a heart.

1 19. A connector for connecting opposing ends of a tube, said connector comprises:
2 a section of tubing to be positioned over the two opposing ends of a tube, and
3 an elastic sleeve to be placed over said section of tubing such that the two ends of the tube
4 are in axial alignment.

1 20. The connector of claim 15 wherein the inside diameter of the section of tubing is
2 approximately the same as the outer diameter of the tube.

1 21. The connector of claim 15 wherein the elastic sleeve provides radial compression on
2 the section of tubing.